REMARKS

In accordance with the foregoing, claims 1 and 6 are amended to clarify the claimed subject matter. No new matter is added. Claims 1-6 and 8-12 are pending and under consideration.

CLAIM REJECTIONS UNDER 35 U.S.C. § 103

Claims 1-3, 6, and 12 are rejected under 35 U.S.C. § 103(a) over U.S. Patent Application Publication 2004/0119759 to Barros (hereinafter "Barros") and U.S. Patent No. 6,587,784 to Okude et al ("Okude"). Claim 4 is rejected under 35 U.S.C. § 103(a) over Barros and Okude in view of U.S. Patent Application Publication No. 2005/0052462 to Sakamoto et al ("Sakomoto"). Claim 5 is rejected over Barros and Okude in view of U.S. Patent No. 6,658,375 to McQuarrie et al. ("McQuarrie") and U.S. Patent Application Publication No. 2005/0099321 to Pearce ("Pearce"). Claims 8 and 9 are rejected over Barros in view of Okude, and further in view of JP 2001-134743 to Hiramoto et al. ("Hiramoto"). Claim 10 is rejected over Barros and Okude in view of Sakamoto and Hiramoto. Claim 11 is rejected over Barros, Okude, Pearce, and McQuarrie, and further in view of article "Visualizing Information" by Edward Tufte ("Tufte") and U.S. Patent Application Publication No. 2002/0078131 to Dowd et al.

Applicants traverse all the rejections.

Claim 1 recites a data display device including an appearance property obtaining unit, a weighting unit, and a display control unit. The appearance property obtaining unit obtains an appearance property of each of a plurality of object sets that are represented in a same data representation type on a screen. The weighting unit applies a weighted value to each object set based on the appearance property. The display control unit changes an appearance of at least one of the object sets so that the at least one of the object sets is displayed in a distinct appearance based on the weighted value. As specified therein, each of the object sets is at least one data object indicating a type of data, and the appearance property is at least one of a fill area, colors, and a number of data objects in an object set.

In the conventional data display device, a plurality of object sets tends to appear indistinctly from each other on a screen, when the plurality of the object sets are represented in a same data representation type. In contrast, the data display device of claim 1 makes the plurality of object sets to distinguish from each other, even when the plurality of the object sets are represented in the same data representation type, because the appearance of at least one of the object sets is changed based on a weighted value that is applied to each object set. The

weighted value depends on the appearance property obtained for each of the plurality of object sets represented in the same data representation type on the screen.

The following table is a non-limiting exemplary embodiment presented herewith only to further clarify the claimed subject matter. In the following example, the appearance property is assumed to be a number of data objects in an object set.

Table 1: Data Representation Type = Vector Format

Coordinates	Wind Velocity=$V(x_\alpha, y_\beta)$
(x_0, y_0)	5m/s
(x_1, y_0)	5m/s
(x_0, y_1)	10m/s
(x_1, y_1)	5m/s

The coordinates in Table 1 correspond to positions on a screen, and each wind velocity in Table 1, i.e., $V(x_\alpha, y_\beta)$, corresponds to a data object at the coordinates, (x_α, y_β). The four data objects of Table 1 belong to two object sets: one object set (hereinafter, referred to as object set A) is represented by three data objects having the wind velocity of 5m/s, and another object set (hereinafter, referred to as object set B) is represented by one data object having the wind velocity of 10m/s. In the conventional data display device, it is difficult to distinguish object set A and object set B on the screen because both of the object sets are represented in the vector format (the same data representation type).

In contrast, the data display device of claim 1 obtains the appearance properties of the object sets, and the object sets are distinctly displayed on the screen based on the appearance properties. In other words, in view of Table 1, since there are three data objects associated with object set A and one data object associated with object set B, the appearance property of object set A is determined to be three (the number of data objects is three) and the appearance property of object set B is determined to be one (the numbers of data object is one). Accordingly, based on the number of data objects, the data display device of claim 1 would display the data objects corresponding to object set A to be smaller vectors than that of the data object in object set B. Therefore, the plurality of object sets that are represented in the same

data representation type are distinctly displayed on the screen.

Barros is directed to layering separate layers (topical 203 data sets, graphics files 204, and user-tracking database 404) on a base 202 by a user. That is, the user can interactively switch on and off additional layers of map data to provide a more complete but concise data presentation (see Barros; [0077], [0078], and FIG. 2a to 2c). Barros also teaches determining the symbol, pattern, and color attributes of each data layer (see Barros; [0082]).

Okude is directed to a stereoscopic map-display method, and teaches that, "if the number of floors (Height) or the bottom area of the architectural body is smaller than the predetermined value F, in steps 608 and 609, the representation method for the architectural body is changed, for example, to a plane-shape display or a display using a transparent color." (see Okude; column 11, lines 63, to column 12, line 2).

The Office Action submits that "Barros fails to expressly teach that the objects are tested for weighted values" (see the statement emphasized on page 6 of the outstanding Office Action) but relies on Okude to compensate for this failure. However, Applicants believe that Okude fails to disclose or suggest the weighting unit of claim 1 because of the following reasons.

In page 6 of the Office Action, it is stated that "the objects within a map can have their appearance changed based on the number of objects present, e.g. the appearance of a building is shown differently with fewer floors" and "the appearance property can be building height and/or **number of floors**, which clearly are 'the number of data objects' and/or the like." Hence, these statements seem to imply that each floor corresponds to a data object in the sense the term is defined in the present application, and a building configured by the each floor corresponds to an object set in the sense in which the term is used in the present application.

However, Applicants submits that Okude does not teach or suggest storing each floor of the architectural body as an individual data object. That is, in Okude, the number of floors seems to be intrinsically provided for the architectural body as merely a number associated with the architectural body, and the number of floors or the appearance property is not determined based on the number of data objects. Therefore, Applicants respectfully submit that Okude does not teach or suggest the data object as recited in the claims.

Even if one assumes that the each floor is stored as an individual data object in Okude, it is incorrect to relate the architectural body of Okude to an object set of as recited in the claims and interpreted in light of the specification. For an embodiment of the data display device of claim 1, an assembly of the vectors or the data objects is defined as an object set. That is, while assuming two data objects as data objects α and β and object set as object set A, the

relationship between the data objects and the object set satisfies a mathematical relationship, "$\alpha, \beta \in A$." Thus, the object set A is merely conceptual, and not ontological. Accordingly, since object set A is conceptual, object set A can be defined for data objects α and β before data objects α and β are actually displayed on the screen, i.e., while data objects α and β are stored as data. On the contrary, because the architectural body in Okude is ontological and not conceptual, the architectural body cannot be defined for the floors before the floors are actually displayed on the screen, i.e., while each floor is stored as data.

Amended claim 1 (as well as 6) clarify that the object set and the data set satisfies the above-described mathematical relationship by reciting that "each of the object sets <u>being at least one</u> data object indicating a type of data." Hence, even if we assume that the floors of Okude correspond to the data objects of the present invention, the architectural body of Okude differs from the object set of the present invention. Therefore, we believe that Okude cannot obtain the appearance property of the object set, and accordingly, Okude cannot apply the weighted value to the object set based on the appearance property, since Okude fails to teach or suggest the object set as recited in the claims. As a result, Okude fails to teach or suggest the weighting unit that applies a weighted value to the object set based on the appearance property.

The other cited references, Pearce, McQuarrie, Hiramoto, Tufte and Dowd, do not correct the above-identified failure of Barros and Okude in teaching or suggesting all the features of the independent claim 1.

Summarizing, claim 1 and claims 2-5 and 8-11 depending from claim 1 patentably distinguish over the cited prior art at least because claim 1 recites:

- an appearance property obtaining unit that obtains an appearance property of each of a plurality of object sets that are represented in a same data representation type on a screen, each of the object sets being at least one data object indicating a type of data, the appearance property being at least one of a fill area, colors, and a number of data objects in an object set;
- a weighting unit that applies a weighted value to each object set based on the appearance property;

In view of the above arguments, independent claim 6 patentably distinguishes over the cited prior art at least by reciting

- obtaining an appearance property of each of a plurality of object sets that are represented in a same data representation type on a screen, each of the object sets

being at least one data object indicating a type of data, the appearance property being at least one of a fill area, colors, and a number of data objects in an object set.

Independent claim 12 patentably distinguishes over the cited prior art at least by reciting:

- a weighting unit that applies a weighted value to each of a plurality of object sets that are represented in a same data representation type on a screen, based on an initial appearance property indicating at least one of a fill area, colors, and a number of data objects in the object set, at least one of the object sets having a distinct final appearance depending on the weighted value.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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